Why did not midwives use partograph correctly?

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ABSTRACT

Background. WHO has developed the concept of partograph and recommended it as auxiliary tool to monitor progress of first stage of labour, detect complicating factors, and help midwives in decision making. Though various studies have proven the beneficial use of partograph, application of birth progress monitoring is not done properly.

Aim: To observe midwives' obedience in using partograph and explore the obstacles.

Method. The study used mixed methods with sequential explanatory strategy. Quantitative study used cross-sectional design with observational method. Qualitative study used phenomenological approach through thorough interviews. Data collecting was done in November 2014 to March 2015 in health facilities in Bandung City, Bandung and Sukabumi Regency. 53 midwives were observed and 27 involved in thorough interviews.

Result. Observation showed 60.4% of midwives used partograph incompletely. Midwives had obstacles in using partograph properly. Knowledge was not main factor causing inobedience. Other contributing factors were skills, training, time with midwife-patient ratio, work burden, formality, supporting system, application of discipline/sanction, attitude.

Conclusion. Partograph cannot be used as a manual, single auxiliary tool in monitoring birth progress. Government needs to re-evaluate the policy of partograph usage.

Keywords: Midwives, partograph, knowledge, skills, training, time with midwife-patient ratio, work burden, formality, supporting system, application of discipline/sanction, attitude.

INTRODUCTION

The problem of mother and baby’s mortality is still a global issue. World Health Organization (WHO) has made efforts to reduce the mortality cases. One of it is by developing the concept of partograph and recommending it as an auxiliary tool to monitor the progress of first stage of labour, detect the complicating factors of it, and help midwives in decision making. WHO promotes partograph as a cosy and effective protocol management1.

The decision to recommend partograph has been made after carrying out various stages. Partograph which is adapted from Philpott and Castle was investigated by WHO through non-randomised prospective studies in 35,484 South East Asian women, and WHO concluded that partograph was an important instrument in birth management and recommended the use of it universally2. Partograph has practical benefits in its easy use, time, sustainability, support of education on the right time to do intervention3 including intervention in troubled birth and recommendation of other interventions before making reference. This action enables prevention of complication in troubled birth by early detection so that clinical treatment can be applied in the right time. It is important to do this remembering that troubled birth is a significant cause of morbidity as well as mother and baby’s mortality3,4. Routine use of partograph will ensure that mothers and babies get a safe treatment in the right time. This will eventually reduce the mortality rate of mothers and babies.

Though WHO has supported the use of partograph and various studies have proven the beneficial use of it, the application of birth progress monitoring using partograph has not been done properly1. This is in line with the study in Uganda which showed that the use of partograph was only 30% of all child births, and 57.1% of medical personnels in Community Health Centre never used partograph to monitor the birth progress. Even in other health facilities, only 2% used partograph in accordance with the standard to monitor the heartbeat of fetus. The data showed that medical personnels should be blamed on their bad attitude, lack of self confidence, and lack of skills on the use of partograph5. Low use of partograph was not only reported in Uganda but also in Ghana6, Ethiopia7-9, Tanzania10 and Southern India11. Some Midwifery units also reported that partograph had limited clinic practices, confined the midwife’s authority and restricted the flexibility to treat a woman as an individu3 which were considered a bad factor for both clinical and psychological outcomes. In a qualitative...
study carried out in Kenya, midwifery students reported that there was a different assumption of partograph between midwives and obstetricians where they avoided the use of partograph since they believed that partograph might create unnecessary problems\(^\text{12,13,14}\). Besides, there was an assumption that all women would have the same stage birth progress, and the use of partograph might give a bad impact such as artificial increase of membrane rupture rate, additional oxitosin and usage of analgesics so that it would result in negative birth process. The limited proofs from six try outs showed that there were still uncertainties on the effectiveness of the use of partograph. Considering that partograph has become an integral part of routine treatment in most countries, it is of vital importance to do an assessment on the efficacy and feasibility of partograph\(^\text{13}\). This study aims to observe the midwives’ obedience in using partograph and in overcoming the obstacles of its usage.

**METHOD OF STUDY**

The study used mixed methods with sequential explanatory strategy, which meant that the study was carried out in stages, beginning from doing a quantitative study, then the quantitative analysis result was explored thoroughly by carrying out a qualitative study\(^\text{15}\). The data collecting was done in November 2014 to March 2015 in some health facilities located in Bandung City, Bandung Regency and Sukabumi Regency.

The quantitative study was an observational study with cross-sectional design. Quantitative data was collected by observing the midwives who used partograph to monitor the birth progress. The observation was carried out using observation sheets which were based on the operational standard of partograph usage. The samples were taken using purposive sampling technique. The service units which became the object of observation were Independent Midwife Practices (IMPs), community health centres, and hospitals. 12 data collectors were recruited and trained on how to do observation, and then they were posted in 12 different places (each observer was posted in a health service facility) as follows: 9 observers were in IMPs, 1 observer was in a hospital, and 2 observers were in community health centres. The observation covered 53 midwives, 9 of them were IMPs, 16 were midwives in hospitals, and 28 were midwives of community health centres. The quantitative data was then processed and analyzed in univariat, and presented in the form of frequency distribution table (Table 1).

Result of quantitative data analysis was then followed by qualitative study. Phenomenological approach was used in this study. Investigation was done through thorough interviews concerning the reasons of midwife’s inobedience in the use of partograph to monitor the birth progress. 3 interviewers were recruited and trained the techniques of thorough interview to gather information concerning the midwife’s inobedience in the use of partograph. Sampling was done using purposive sampling. Qualitative data collecting was done by having thorough interviews and using interview guidance which was based on the previous interviews. Interviews were done face-to-face for 35-40 minutes in the participants’ houses, at work places, and in canteens (depending on the participants’ requests). 27 midwives were involved in the thorough interviews. 11 midwives did not complete the use of partograph, and 16 midwives did not use partograph at all. The records were then processed, analyzed and verified. Data verification was done using triangulation method.

<table>
<thead>
<tr>
<th>Obedience</th>
<th>f</th>
<th>%</th>
<th>Result of observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The use of partograph</td>
<td></td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Used accordingly</td>
<td></td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Used improperly (incomplete)</td>
<td>32</td>
<td>60.4</td>
<td>Midwives used partograph to monitor birth progress but some examination procedures were not done, such as uterus contraction assessment, maulage dan descent of fetus’ lowest part in one-fifth, assessment of vital indication (pulse, blood pressure, and mother’s body temperature). Assessment focused more on cervix opening, fetus’ heartbeat, and hicks. Assessment of fetus’ heartbeat and hicks was not done per 30 minutes but it was done every 4 hours or when there was an indication of complete opening. Assessment of fetus’ heartbeat was more frequently done when there was an indication which tended to fetal distress. Intervention was done when passing the alert limit.</td>
</tr>
<tr>
<td>Not used</td>
<td>21</td>
<td>39.6</td>
<td>Midwives did not use partograf at all. However, midwives assessed the cervix opening and fetus’ heartbeat. Assessment was done every 4 hours or more frequently when there was a particular indication or indication of complete opening.</td>
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Table 1. Midwife’s obedience in the use of partograph
**RESULT**

**Knowledge:** Partograph is an auxiliary tool used during active phase of birth. The accurate use of partograph can help midwives detect the complicating factors in first stage of labour. Results of study showed that almost all participants had good knowledge on the benefit, monitoring techniques and filling the partograph. Ideally, knowledge can render particular conviction so that one behaves in accordance with the conviction. However, this did not reflect the attitude of some midwives who did not use partograph to monitor the birth progress.

*"Partograph is used to monitor the birth progress and detect the complicating factors in first stage of labour. Using partograph, we will know when we must make a decision and when to act. I know the benefit of using partograph but it is not an easy task."* (midwife of community health centre)\(^{12,16}\).

**Midwife’s skill:** In this case, skill is the ability and mastery of operational technique in monitoring the birth progress using partograph. To be able to use partograph correctly in monitoring the birth progress, midwives must have various skills such as, 1) the ability to gather information from mothers; 2) the ability to assess the fetus including counting the fetus’ heartbeat, assessing the condition of fetal membrane, and maulage; 3) the ability to assess the birth progress including cervix dilatation and descent of fetus’ lowest part in one-fifth; 4) assessment of mother’s condition including assessment of uterus contraction, assessment of pulse and temperature, blood pressure, urine, medicine needs and liquid; 5) treatment, observation and other clinic decisions.

Most participants admitted their weaknesses in assessing maulage, uterus contraction and descent of fetus’ lowest part in one-fifth.

*“it is difficult for me to assess maulage. Sometimes I could touch the suture but many times I could not do it. Also, assessing descent of fetus’ lowest part in one-fifth is really confusing. My colleagues and I often debate this.”* (midwife of hospital)

**Training:** One of the efforts to improve midwife’s competence is by giving training. Training is expected to give updated knowledge and midwife’s skills. However, this study found things which were different from the expectation where participant felt unsatisfied with the training given because the training discussion topics were still the same as what they used to get in midwifery education.

*“you can imagine that I had to save for months in order to follow the training, and after completing the training I felt that I did not improve my knowledge since the discussion topics were still the same as what I used to get in midwifery education. The training only discussed how to fill partograph and not how to do assessment of aspects in partograph.”* (midwife of hospital)

**Time with midwife-patient ratio and work burden:**

There are two kinds of assessment done in a tight time, they are 1) assessment of fetus’ heartbeat every 30 minutes and if there is an indication which tends to fetal distress, fetus’ heartbeat should be examined every 15 minutes; 2) assessment of uterus contraction every 30 minutes and each assessment is done by counting the numbers of contraction in 10 minutes. To be able to apply these procedures, midwives have to be present beside the mother until she gives birth. Midwives felt that the time required in assessment of fetus’ heartbeat, uterus contraction and pulse was not logic compared to midwife’s work burden, where midwives were not only expected to give treatment to mothers who gave birth but also required to accomplish other hard tasks.\(^{17}\) Therefore, the application of partograph manually without the assistance of other supporting monitoring tools was considered illogical.

*“What should I do? I am not only required to serve mothers who give birth but also pregnant mothers, acceptors of contraception, and babies. I do not have any assistance at my work place, so how can I do all these tasks at the same time? Furthermore, I am a wife and at the same time I am also a mother. I have to take good care of the house, cook, and bring my child to school. Can you tell me how I should manage my time so that I can use partograph correctly?”* (IMP)\(^{18}\).

**Formality:** The government provides mothers who give birth with health security and most of them have made use of the health security. The government has also decided that the monitoring result of partograph is one of requirements for health personnels who will claim their birth fund. The requirement to use partograph in every birth progress monitoring and other unconditioned factors makes midwives use partograph as a formality to complete the files of birth fund claim. The consequence to use partograph properly is to give away other tasks. Participants admitted that they had no options other than considering the use of partograph as a formality.

*I have got so many things to do by my self, so I fill the partograph after the mother gives birth or whenever i need references”* (IMP)\(^{18}\).

**Supporting system:** System is an interrelated series of main parts and sub parts. When a part of a system is troubled, other parts will get troubled too. Midwives work in accordance with health system design which has been set up by the government to improve health grade. There is a close relation between midwife’s competence and tools and infrastructure, work
burden, health regulation, monitoring and evaluation, reward and punishment. Supporting system is very important in encouraging midwives to work better. Participants revealed that the reporting of patients to community health centre (ordinary patients who do not get health security) did not require result of partograph record because result of partograph record was only needed for patients who have security health. Besides, most referred places did not require partograph record as a requisite of reference. “community health centres do not require partograph record in my monthly report, except that it is only needed for insurance claim. What they need are only identity data and brief information on mothers who give birth. Besides, in my work place, partograph is not available for all mothers. It is only used when reference is necessary.” (IMP)

Application of discipline/sanction: Partograph is a part of normal birth treatment and one pillar of safe motherhood developed by WHO. The government has obliged the application of normal birth treatment in every child birth. Monitoring and evaluation are necessary to guarantee the quality of service. Ideally, this must be followed by giving reward and punishment. Participants revealed that the use of partograph was not considered an obligatory, and they tended to ignore it because there was no reward and punishment for midwives who did not use partograph to monitor birth progress.

“I think they do not consider this an obligatory because there is no sanction or warning for those who do not use partograph in monitoring birth progress.” (midwife of community health centre)

Attitude: Attitude is a reaction or respond of midwives against the use of partograph which involves their opinions and emotion. The attitude determines how midwives react to birth situation. Many factors influence midwives’ attitude in the use of partograph. Most participants showed negative attitude towards partograph because they consider the use of partograph an additional burden.

“I know that the use of partograph is meant to help midwives detect the birth progress. However, evaluation is needed whether partograph can be applied as a single auxiliary observation tool. Otherwise, it becomes a burden for midwives.” (midwife of hospital).18

DISCUSSION

The inobedience of midwives in the use of partograph to monitor birth progress is not always caused by poor knowledge. This is in accordance with the findings in Enugu. Though the health professionals already had a good knowledge about partograph, only few who really made use of it19. Survey in Ogun State, Nigeria on 396 midwifery treatment facilities from 66 periphery birth units showed that only 9.8% of health personnels who used partograph routinely for birth management20 and almost half of health personnels had poor knowledge20,21. Good knowledge is not sufficient to make someone behaves when it is not supported by good skills. This is in accordance with the study done in South-West Nigeria which identified that lack of skill was the main factor inhibiting the use of partograph in primary level of health treatment where most cases of birth happened.22 Result of study showed that low competence in the use of partograph reflected the poor trainings which were given to the health personnels18,21.

Participants admitted that they had poor knowledge in some aspects of partograph components although they had already followed the trainings. Even they revealed their unsatisfaction on the trainings given because the trainings only discussed how to fill partograph, and not demonstrated how to examine the partograph components especially maulage assessment, effective assessment of uterus contraction and descent of fetus’ lowest part in one-fifth assessment. The same problems were also found in India where the trainings given to the health personnels did not support the use of partograph properly. Respondents reported that they did not feel confident in using partograph even after attending the trainings. They revealed their worry that partograph could be used but it could not be carried out. In theory, partograph might be seen as a beneficial instrument, but the staff felt doubt about the usage in practice. This study indicated that there was a problem of pre-service education like training on service which discussed the poor competence and the neglection of using partograph. The trainings were not sufficient, so it was not fair enough to expect that the health personnels must be competent in using partograph. The same case was also reported by students of midwifery in Kenya who revealed the poor skill of partograph training fasilitators in birth room12,18.

Findings in this study showed that 60.4% of midwives did not complete the use of partograph in birth monitoring. These findings were in accordance with some studies which reported that many partograph found were incomplete3,6,23. The same thing was also found by Windrim, where there was a high percentage of health personnels’ inobedience in completing the partograph. Other than that, Windrim did not find any difference in measured clinic result including numbers of caesarean operation, birth duration, additional oxitosin, amniotomy, use of epidural, use of antibiotic in child birth, value of Apgar, or acceptance to the neonatal intensive
treatment unit after partograph recognition. However, the researchers admitted that the findings might be influenced by relatively high percentage of inobedience in completing partograph (20%) or cross contamination of treatment by the staff, or both.

It is obvious that the completion of using partograph is not easy. There are many challenges in completing partograph, including less number of health personnel, child birth rooms and insufficient trainings. This study found that time challenge was crucial in completing partograph. The same case was also experienced by midwives in Wales, where midwives had not sufficient time to complete partograph. Other studies also reported that the main problem in applying partograph properly was the need of sufficient number of health personnel, skillful health personnel who have positive attitude towards the use of partograph in various levels of health facilities. But the fact was that the ratio between midwives and patients was not balanced. It was 1:987. The unbalanced ratio of midwives and patients, and many tasks which should be done by LMPs made the use of partograph illogical. Even, copies of partograph were not available in some health facilities. The same problem was also experienced by midwives of hospitals. The number of midwives was different in each shift. More midwives worked in the morning and less at night, meanwhile more child births happened at night. Studies in India showed that many respondents reported increase of work burden since the program of partograph was initiated. The same problem was also experienced by midwives in India, where they had high work burden and time limitation which made them ignore the filling of partograph or they only made it retrospectively after the child birth and not during the monitoring of birth progress. Most health personnel reported that it was impossible for them to use partograph in every child birth. Besides, review of mother’s mortality history, observation and work cooperation among midwives showed that they had hard, tight and unorganized work, poor decision making and insufficiency of reference system.

On the other hand, absence of monitoring and feedback or sanction for midwives who did not use partograph properly had contributed the poor use of partograph in monitoring birth progress. The same thing was also revealed by Ferguson who said that feedback might contribute to the high accuracy level and low inaccuracy level recorded. The poor regulation of health personnel showed the poor use of partograph usage and indicated the obstacles to use partograph routinely such as insufficient knowledge, unavailability of copies of partograph and pressure of work burden. Proportion of health facilities and consistent support of facilities to the use of partograph in Nigeria was low. This trended to contribute the high mortality of mothers. Many studies in various countries reported the poor use of partograph, including Cochrane review which identified that there was no sufficient proof to support the use of partograph routinely as a part of management standard and birth treatment.

CONCLUSION

Partograph can not be used as a single auxiliary tool in monitoring the birth progress. The government needs to re-evaluate the policy of partograph usage as a manual and single auxiliary tool in monitoring the birth progress. It is necessary to modify and simplify the original partograph so that it is more logical for midwives to use partograph in every health facility unit.

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